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EXAMINER	
CHOW, VAN NGUYEN	
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2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,441	KIM ET AL.	
	Examiner	Art Unit	
	VAN N. CHOW	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 13-17, 21, 24-27, 29* is/are rejected.

7)☒ Claim(s) *5-12,18-20,22,23 and 28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/27/2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Objections

1. Claim 23 is objected to because of the following informalities: There are two claims 23. Appropriate correction is required.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 21, 24 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21, 29 recite the limitation "the respective five split beams" in line 2, respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 falls with parent claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 13-14, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al. (US 2002/0021649) in view of Applicant Admitted Prior Art Fig. 1 (hereinafter AAPA).

Regarding claim 1, Yoo et al. discloses an optical pickup apparatus comprising:

a light source module having a first light source and a second light source which emit light rays of different wavelengths to record/reproduce data on/from recording media having different standards, the first light source emitting light rays for a DVD and the second light source emitting light rays for a CD, the light source module operating a selected one of the first and the second light sources (see fig. 2, element 50, a first light source 55 is a DVD with wavelength 650nm, a second light source 57 is a CD with wavelength 780nm. The optical pickup includes a light device module 50, which includes first and second light beam sources 55 and 57 to emit a first light beam I and a second light beam II having different respective wavelength);

an object lens arranged to focus light rays emitted from the selected light source to form an optical spot on a predetermined position of a recording surface of a recording medium (see fig. 2, an objective lens 67 to focus incident light on an optical recording medium 80);

a light splitting element arranged to transmit a part of the light rays emitted from the selected light source and reflect the remaining light rays to oppose to the object lens, the light splitting element transmitting all of the light rays reflected from the recording medium (see fig. 2, an optical path changing unit 63 to selectively alter the optical path of incident light);

a collimating lens arranged on a light path formed between the light splitting element and the object lens to convert the light rays into parallel light rays (see fig. 2, collimator lens 66 to collimate incident light);

a hologram module arranged on a light path between the collimating lens and the object lens (see fig. 2, a hologram light coupler 61 by which the first and second light beams I and II are guided to travel along the same optical path); and

a photo-detector having a DVD sensor and a CD sensor for receiving light rays that are reflected from the recording medium and passed through the hologram module and detecting an information signal and an error signal (a photodetector 71 to receive light passed through the objective lens 67).

AAPA discloses a hologram module arranged on a light path between the collimating lens and the object lens to split a light which is incident to the recording medium, into a plurality of beams (see fig. 1, a polarized light hologram element 50 arranged to split a light which is incident to a disk 100 to a plurality of beams).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a hologram module arranged on a light path between the collimating lens and the object lens in Yoo et al. as suggested by AAPA, the motivation being in order to split a light which is incident to a disk 100 to a plurality of beams (see AAPA [0008]-[009]).

Regarding claims 13 and 25, see rejection above of claim 1, respectively.

Regarding claim 14, the combination of Yoo et al. and AAPA, discloses theoptical pickup apparatus as claimed in claim 13, wherein the first and second light sources are packaged

in a single module and originated from a dual wavelength laser diode which generates light rays having one of a wavelength of 650 nm for recording/reproducing data on/from a DVD-family optical disk and a wavelength of 780 nm for recording/reproducing data on/from a CD-family optical disk (see Yoo et al. see rejection above of claim 1 and [0031]-[0032]).

7. Claims 2-3, 15-16 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al. (US 2002/0021649), Applicant Admitted Prior Art Fig. 1 (hereinafter AAPA) in view of Lee et al. (US 2003/0235127).

Regarding claim 2, the combination of Yoo et al. and AAPA, discloses the optical pickup apparatus as claimed in claim 1, further comprising: a sensor lens arranged on a front surface of the photo-detector for adjusting the light rays reflected from the recording medium to be incident on the photo-detector with a predetermined size (see Yoo et al., fig. 2, element 69).

Lee et al. discloses a monitor photo-detector arranged to receive light rays that pass through the light splitting element and monitor the light rays to adjust a magnitude of the light emitted from the first and the second light sources (see Lee et al. fig. 1, [0037], monitor photodetector 45, controls the amount of the light power output from the light source 10 and in the event that the light source 10 is two light sources, the optical pickup may include a light source module having a package in which the two light sources, respectively, emitting the light beam having the 650 nm wavelength suitable for the DVD and the light beam having the 780 nm wavelength suitable for the CD form a single body).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide monitor photodetector 45 in Yoo et al. and AAPA, as suggested

by Lee et al., the motivation being in order to controls the amount of the light power output from the light source (see Lee et al. [0034]).

Regarding claim 3, the combination of Yoo et al., AAPA and Lee et al., discloses the optical pickup apparatus as claimed in claim 2, wherein the hologram module comprises: a polarized light hologram formed in a circular pattern to split only predetermined polarized light rays; and a 1/4-wavelength plate arranged on a surface of the polarized light hologram opposite to the object lens for turning a phase of the polarized light rays by 90.degree. (see AAPA fig. 2, the polarized light hologram element 50 is designed to operate in response to the wavelength of light rays emitted from the second light source 20, i.e., in a DVD mode. In addition, the polarized light hologram element 50 operates only in response to the p-polarized light. The polarized light hologram element 50 has a 1/4-wavelength plate formed on a surface thereof opposing to the disk 100 so that the polarized light hologram element 50 can convert an incident s-polarized light into a circularly polarized light and convert a reflection light from the disk 100 to the p-polarized light. Only the light containing a p-polarized light, which is emitted from the second light source 20 and reflected from the disk 100, is split into 10 beams by the polarized light hologram element 50).

Regarding claims 15-16, see rejection above of claims 2-3, respectively.

Regarding claim 26, see rejection above of claim 3.

8. Claims 4, 17, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoo et al. (US 2002/0021649), Applicant Admitted Prior Art Fig. 1 (hereinafter AAPA), Lee et al. (US 2003/0235127) in view of Ogasawara et al. (US 2004/0105374).

Regarding claim 4, the combination of Yoo et al., AAPA, and Lee et al., discloses the optical pickup apparatus as claimed in claim 3, wherein the polarized light hologram diffracting the light by a predetermined angle with respect to an optical axis of the light to thereby generate zero-order and .+-.1 order beams (see Yoo et al. fig. 5).

Ogasawara et al. discloses a polarized light hologram is divided into a first hologram and a second hologram which are operated in response to the light rays emitted from the first light source, the first and the second holograms being formed on the same plane in a semicircular shape and located one on the other (see Ogasawara et al. fig. 8c, the single hologram lens 17 is produced to have two semicircular hologram regions 17a and 17b. Moreover, the hologram is operated in response to the light rays emitted from the first light source, which is DVD, see [0038]).

Nagahara et al. discloses a grating 13 has a structure wherein two diffraction grating parts 13a and 13b are combined with each other. The grating parts 13a and 13b each have slit-like grating elements formed thereon, the directions of which have different angles with respect to the light beam when viewed in the vertical direction in FIG. 4A. Therefore, the light beam that has entered the grating 13 is divided into five light beams. The incident light L that enters the grating 13 is divided into five light beams by the grating 13. Specifically, the grating 13 causes the emission of five, in total, light beams, including the 0th order diffracted light, the .+-.1st order diffracted lights produced by the grating part 13a, and the .+-.1st order diffracted light produced by the grating part 13b (see fig. 3 and [0059], And [0063]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a single hologram lens is produced to have two semicircular

hologram regions of Ogasawara et al. and incident light that enters the grating is divided into five light beams of Nagahara et al. in Yoo et al. and AAPA, the motivation being in order to five different light spots are formed on the information recording surface of the disc (see Nagahara et al. [0063]).

Regarding claims 17, 27, see rejection above of claim 4, respectively.

Allowable Subject Matter

9. Claims 5-12 and 18-20, 22-23, 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 21, 24 and 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

None of the references cited in record disclose or suggest all the limitations in the claims 5-12 and 18-24, 28-29.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimano et al. US 7,215,609.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN N. CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Van N. Chow/
Examiner, Art Unit 2627